

# **NIH X12 194 Implementation Guide**

**Version 1.2**

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# 1. Introduction

The need to exchange information between the Federal Government and the research community is critical. Traditionally, research institutions and the Federal Government have communicated by mailing preprinted business forms. Now, the Office of Policy for Extramural Research (OPERA) at the National Institutes of Health (NIH) is re-engineering the extramural grant administration process. Through the integration of computers and data communications, NIH is attempting to maximize the benefits of exchanging grant application information electronically: reduced paperwork, minimized cost, and improved response time. The primary technologies comprising this re-engineering effort are Electronic Data Interchange (EDI) and the World-Wide Web (WWW).

As an initial step in automating the grant administration process, NIH is developing a prototype system which integrates EDI and WWW technologies. The goal of this prototype system is to demonstrate how NIH can electronically receive and display select portions of the PHS 398 (referenced simply as “398” within the context of this manual), as submitted by an applicant institution.

## 1.1 Background

In July, 1995, under a Department of Energy (DoE) Cooperative Agreement, the NIH joined several Department of Defense agencies in a pilot to test the submission of grant application information via EDI. The pilot uses the X12 194 transaction set, which was developed collaboratively by the Federal agencies, and adopted by the ANSI X12 committee.

With the assistance of Federal Information Exchange, Inc. (FIE), a government contractor, eight research institutions are preparing relevant portions of the 398 to be transmitted in EDI format. NIH is implementing this prototype EDI system to receive the 194 transaction set from these participating grantee organizations, and to display the 398 data via a Web interface.

## 1.2 Purpose and Scope

The purpose of this manual is to document the guidelines required to interoperate with the NIH prototype EDI system (referenced simply as “prototype system” within the context of this manual). Specifically, it provides NIH trading partners with the information necessary to transmit the 194 (Grant Application) to the prototype system, and to receive the 997 (Functional Acknowledgment) from the prototype system. No other X12 transaction sets are supported.

The NIH prototype EDI system is being deployed as a phased implementation. Phase one, for which this manual is written, accepts only test data. In addition, phase one is limited to

the following pages from the 398: AA, BB, DD, EE, and the research plan specific aims. This means that only the 194 data segments and elements correlating to pages AA, BB, DD, EE, and the specific aims are referenced in this manual. The manual will be expanded to include the data segments and elements correlating to the remaining 398 pages in subsequent phases.

Phase one of the prototype system is expected to be completed by the end of November, 1996. No information is currently available as to the time frame and content of subsequent phases.

### **1.3 References**

1. "ASC X12 194 Transaction Set. Grants Proposal ." September 12, 1996.
2. "Federal Implementation Guideline for the Electronic Data Interchange. ASC X12 003050 Transaction Set 997. Functional Acknowledgment. Implementation Convention." Draft NIST Special Publication 881-XXX. April, 1996.
3. "Office of Energy Research/Department of Energy (ER/DOE) Electronic data Interchange Implementation Manual". Draft. December , 1995.

### **1.4 Terms and Abbreviations**

194	X12Grant or Assistance Application
997	X12 Functional Acknowledgment
DoE	Department of Energy
EDI	Electronic Data Interchange
FIE	Federal Information Exchange, Inc.
IC	Implementation Convention
NIH	National Institutes of Health
OPERA	Office of Policy for Extramural Research
WWW	World-Wide Web

### **1.5 Organization of Document**

This document, the "NIH X12 194 Implementation Guide", contains four major sections. Section 1 introduces the manual. Section 2 presents implementation guidelines for X12 headers that are common to both the 194 and 997. Section 3 presents implementation guidelines for the 194 transaction set, and section 4 presents implementation guidelines for the 997 transaction set.

This document also contains three appendices. The first appendix provides a sample PHS 398 application and associated 194 transaction set. The second appendix provides a

sample 997 transaction set, and the third appendix lists points of contact for the prototype system.

## **1.6 How to Use This Document**

The “NIH X12 194 Implementation Guide” is intended for use only by the institutions participating in phase one of the prototype system. It is written for the technical user who understands EDI terms and concepts.

This manual cannot be used as a standalone document; it must be used in conjunction with the PHS 398 Application Kit, and the 194 and 997 Federal Implementation Conventions (ICs). Although this guide is similar in format to the ICs, the information presented is specific to the requirements of NIH.

### **1.6.1 What This Manual Specifies**

This document presents each 194 and 997 data segment required for phase one of the NIH prototype EDI system in tabular form. Each table contains the complete set of data elements comprising the segment, including the data element usage (e.g., must use, not used, etc.), the reference designation, the data element identifier, the data element name, and the X12 usage, type, and length constraint attributes. All this information is copied directly from the ICs. Each table also contains any implementation notes specific to NIH requirements. These NIH requirements include length constraints<sup>1</sup>, how the data fields from the relevant 398 pages are mapped to the appropriate 194 data segments and elements, and any applicable information from the PHS 398 Application Kit. Where the implementation notes identify specific EDI codes or qualifiers, these are the only codes or qualifiers supported by NIH for phase one of the prototype system.

For each 194 and 997 data segment applicable to phase one of the prototype system, the usage for each data element comprising the segment is specified. The semantics of the data element usage codes are provided below. The codes are taken from the relevant implementation conventions.

<b>Usage</b>	<b>Expansion</b>	<b>Meaning</b>
M/U	Must Use	This data element must be present in the segment.
(blank)	(blank)	This data element may be present in the segment, depending on business requirements.
N/U	Not Used	This data element should not be present in the segment.

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<sup>1</sup> NIH requirements restrict the length of certain 194 data elements. These data elements, along with the new length constraints, are identified in their respective 194 data segment tables. If no length constraint is listed, the value specified by the 194 IC is to be used.

In addition, some 194 data elements labeled as “M/U” are not captured by NIH (i.e., not copied from the 194 into an NIH database). This manual highlights these elements in the appropriate data segment tables. Data elements that are not captured for phase one contain the implementation note “Not captured by NIH for Phase 1.” Data elements that NIH will never capture contain the implementation note, “Not captured by NIH.”

### **1.6.2 What This Manual Does Not Specify**

This manual does not to duplicate (except as described in section 1.6.1) informative references from the ICs. No explanatory text or implementation notes (e.g., data segment syntax and semantics, code value implementation notes, etc.) are included from the ICs.

## 2. X12 Headers and Trailers

The X12 standards define interchange and functional group headers and trailers that are common to all transaction sets. Rather than duplicate this header and trailer information for each transaction set, the ISA, GS, GE, and IEA segments are presented here.

### 2.1 ISA Header

**Purpose:** To start and identify an interchange of one or more functional groups and interchange related control.

**Notes:** 1. For purposes of Phase One of the NIH Prototype EDI System, the NIH Interchange ID shall be “NIH EDI PROTO 1”. Each grantee organization participating in phase one must register an Interchange ID with NIH.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	ISA01	I01	Authorization Information Qualifier “00” No Authorization Information	M ID 2/2
M/U	ISA02	I02	Authorization Information <i>Ten blank spaces.</i>	M AN 10/10
M/U	ISA03	I03	Security Information Qualifier “00” No Security Information	M ID 2/2
M/U	ISA04	I04	Security Information <i>Ten blank spaces.</i>	M AN 10/10
M/U	ISA05	I05	Interchange ID Qualifier “ZZ” Mutually defined.	M ID 2/2
M/U	ISA06	I06	Interchange Sender ID	M AN 15/15
M/U	ISA07	I05	Interchange ID Qualifier “ZZ” Mutually Defined.	M ID 2/2
M/U	ISA08	I07	Interchange Receiver ID	M AN 15/15
M/U	ISA09	I08	Interchange Date	M DT 6/6
M/U	ISA10	I09	Interchange Time	M TM 4/4
M/U	ISA11	I10	Interchange Control Standards Identifier “U” U.S. EDI Community	M ID 1/1
M/U	ISA12	I11	Interchange Control Version Number “00305” Version 3 Release 5. <i>Use for 997.</i> “00306” Version 3 Release 6. <i>Use for 194.</i>	M ID 5/5
M/U	ISA13	I12	Interchange Control Number	M NO 9/9
M/U	ISA14	I13	Acknowledgment Requested	M ID 1/1
M/U	ISA15	I14	Test Indicator “T” Test Data	M ID 1/1
M/U	ISA16	I15	Component Element Separator “:” ASCII (HEX)	M AN 1/1

## 2.2 GS Header

**Purpose:** To start and identify a functional group of related transaction sets and provide control and application identification information.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	GS01	479	Functional Identifier Code “GA”	M ID 2/2
M/U	GS02	142	Application Sender’s Code	M AN 2/15
M/U	GS03	124	Application Receiver’s Code	M AN 2/15
M/U	GS04	373	Date	M DT 6/6
M/U	GS05	337	Time	M TM 4/8
M/U	GS06	28	Group Control Number	M NO 1/9
M/U	GS07	455	Responsible Agency Code “X” ASC X12	M ID 1/2
M/U	GS08	480	Version “003060”	M AN 1/12

## 2.3 GE Trailer

**Purpose:** To define the end of a functional group of related transaction sets.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	GE01	97	Number of Transaction Sets Included	M NO 1/6
M/U	GE02	28	Group Control Number	M NO 1/9

## 2.4 IEA Trailer

**Purpose:** To define the end of an interchange of one or more functional groups and interchange related control.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	IEA01	I16	Number of Included Functional Groups	M NO 1/5
M/U	IEA02	I12	Interchange Control Number	M NO 9/9

### 3. 194 Transaction Set

The 194 transaction set is used by organizations to submit research grant application data to NIH. A single transmission of this transaction set shall be used to submit a single proposal. For phase one of the NIH prototype EDI system, the submitted proposal shall comprise test data transmitted by a grantee organization participating in phase one of this project.

#### Heading:

	<u>Pos No</u>	<u>Seg ID</u>	<u>Name</u>	<u>Req Des</u>	<u>Max Use</u>	<u>Repeat</u>
M/U	010	ST	Transaction Set Header	M	1	
M/U	020	BGN	Beginning Segment	M	1	
N/U	030	DTM	Date/Time Reference	O	>1	
N/U	040	LDT	Lead Time	O	>1	
N/U	050	PWK	Paperwork	O	>1	
			LOOP ID - N9			>1
	060	N9	Reference Number	O	1	
N/U	070	L11	Business Instructions	O	>1	
	080	MTX	Text	O	1	
			LOOP ID - NM1			>1
M/U	090	NM1	Individual or Organizational Name	O	1	
	100	N2	Additional Name Information	O	1	
	110	N3	Address Information	O	1	
	120	N4	Geographic Location	O	1	
	130	N9	Reference Number	O	>1	
	140	PER	Administrative Communications Contact	O	>1	

**Detail:**

	<u>Pos No</u>	<u>Seg ID</u>	<u>Name</u>	<u>Req Des</u>	<u>Max Use</u>	<u>Repeat</u>
			<b>LOOP ID - HL</b>			>1
M/U	010	HL	Hierarchical Level	M	1	
	020	QTY	Quantity	O	>1	
	030	AMT	Monetary Amount	O	>1	
	050	DTM	Date/Time Reference	O	>1	
	060	PAM	Period Amount	O	>1	
N/U	070	HSD	Health Care Services Delivery	O	>1	
	080	NX1	Property or Entity Identification	O	1	
	090	YNQ	Yes/No Question	O	>1	
			<b>LOOP ID - N9</b>			>1
	100	N9	Reference Number	O	1	
N/U	105	L11	Business Instructions	O	>1	
	110	MTX	Text	O	>1	
			<b>LOOP ID - INX</b>			>1
N/U	120	INX	Index Detail	O	1	
N/U	130	K3	File Information	M	>1	
			<b>LOOP ID - PO1</b>			>1
N/U	140	PO1	Baseline Item Data	O	1	
N/U	160	MTX	Text	O	>1	
			<b>LOOP ID - PPL</b>			>1
	170	PPL	Price Support Data	O	1	
N/U	180	REF	Reference Identification	O	>1	
			<b>LOOP ID - PD</b>			>1
	190	PD	Pricing Data	O	1	
	200	PDD	Pricing Data Detail	O	1	
			<b>LOOP ID - PL</b>			>1
N/U	210	PL	Proposal Cost Logic	O	1	
N/U	220	REF	Reference Identification	O	>1	
N/U	230	AMT	Monetary Amount	O	1	
N/U	240	PCT	Percent Amounts	O	1	
N/U	250	QTY	Quantity	O	1	
N/U	260	NTE	Note/Special Instruction	O	>1	
			<b>LOOP ID - PD</b>			>1
N/U	270	PD	Pricing Data	O	1	
N/U	280	SPI	Specification Identifier	O	1	
N/U	290	REF	Reference Identification	O	>1	
N/U	300	PDD	Pricing Data Detail	O	>1	
N/U	310	MTX	Text	O	>1	
N/U	320	DTM	Date/Time Reference	O	10	

		<b>LOOP ID - LX</b>		<b>&gt;1</b>
	330	LX	Assigned Number	O 1
	340	NM1	Individual or Organizational Name	O 1
	350	N2	Additional Name Information	O 1
	360	N3	Address Information	O 1
	370	N4	Geographic Location	O 1
	375	PER	Administrative Communications Contact	O >1
	380	DMG	Demographic Information	O >1
	390	EMS	Employment Position	O 1
		<b>LOOP ID - N9</b>		<b>&gt;1</b>
	400	N9	Reference Identification	O 1
N/U	405	L11	Business Instructions	O >1
N/U	410	MTX	Text	O >1
		<b>LOOP ID - DEG</b>		<b>&gt;1</b>
	420	DEG	Degree Record	O 1
N/U	430	FOS	Field of Study	O >1
N/U	440	N1	Name	O >1
		<b>LOOP ID - K2</b>		<b>&gt;1</b>
N/U	450	K2	Administrative Message	O 1
N/U	460	N9	Reference Identification	O >1
N/U	470	NM1	Individual or Organizational Name	O >1
M/U	480	SE	Transaction Set Trailer	M 1

### 3.1 ST Segment (1/010)

**Table / Position:** 1 / 010

**Purpose:** To indicate the start of a transaction set and to assign a control number.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	ST01	143	Transaction Set Identifier Code "194" X12.372 Grant or Assistance Application	M ID 3/3
M/U	ST02	329	Transaction Set Control Number	M AN 4/9

### 3.2 BGN Segment (1/020)

**Table / Position:** 1 / 020

**Purpose:** To indicate the beginning of a transaction set.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	BGN01	353	Transaction Set Purpose Code "00" Original	M ID 2/2
M/U	BGN02	127	Reference Number <i>Assigned by grantee organization. Not captured by NIH for Phase I.</i>	M AN 1/30
M/U	BGN03	373	Date <i>Use to indicate the date associated with the signature of the Signing Official and the PI. Correlates to page AA, numbers 15 (date) and 16 (date).</i>	M DT 6/6
M/U	BGN04	337	Time <i>Not captured by NIH.</i>	X TM 4/8
M/U	BGN05	623	Time Code <i>Not captured by NIH.</i>	O ID 2/2
	BGN06	127	Reference Number <i>Use to indicate the RFA number to which this application is a response. Correlates to page AA, number 2 (Number:). Maximum length for the RFA number is 10 characters.</i>	O ID 1/30
M/U	BGN07	640	Transaction Type Code "6C" Competitive Renewal "6R" Resubmission "S4" Submission	O ID 2/2
	BGN08	306	Action Code <i>Not captured by NIH for Phase I.</i>	O ID 1/2
	BGN09	786	Security Level Code <i>Not captured by NIH for Phase I.</i>	O ID 2/2

### 3.3 N9 Segment (1/060)

**Table / Position:** 1 / 060

**Purpose:** To transmit identifying numbers and descriptive information as specified by the reference number qualifier.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N901	128	Reference Number Qualifier <i>“4W” Study. Use to indicate the Title of Project, page AA, number 1.</i>  <i>“CT” Contract Number. Use to indicate a number assigned by NIH for a previous grant or application.</i>  <i>“KS” Solicitation. Use to indicate the RFA title to which this application is a response. Correlates to page AA, number 2 (Title:).</i>	M ID 2/3
	N902	127	Reference Number <i>Use with qualifier “CT” and BGN07 “6C” to indicate the previous grant number assigned by NIH.</i>  <i>Use with qualifier “CT” and BGN07 “6R” to indicate the previous application number assigned by NIH (see 398, page ii).</i>	X AN 1/30
	N903	369	Free-form Description <i>Cite the word “TITLE” when used with qualifier 4W.</i>  <i>Cite the word “SOURCE” when used with qualifier KS.</i>	X AN 1/45
N/U	N904	373	Date	O DT 6/6
N/U	N905	337	Time	X TM 4/8
N/U	N906	623	Time Code	O ID 2/2
	N907	C040	Reference Identifier <i>Not captured by NIH.</i>	O

### 3.4 MTX Segment (1/080)

**Table / Position:** 1 / 080

**Purpose:** To specify textual data.

Usage	Ref. Des.	Data Elmt	Name	Attributes
N/U	MTX01	363	Note Reference Code	O ID 3/3
M/U	MTX02	1551	Message Text <i>Use to transmit the Title of Project, page AA, number 1. Maximum length for Title of Project is 81 characters.</i>  <i>Use to transmit the RFA title, page AA, number 2 (Title:). Maximum length for RFA title is 50 characters.</i>	X AN 1/4096
N/U	MTX03	1551	Message Text	O AN 1/4096
N/U	MTX04	934	Printer Carriage Control Code	O ID 2/2

### 3.5 NM1 Segment (1/090)

**Table / Position:** 1 / 090

**Purpose:** To supply the full name of an individual or organizational entity.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	NM101	98	Entity Identifier Code “1B” Applicant. <i>Use to indicate the official signing for the applicant organization (page AA, number 14).</i>  “AD” Party to be advised. <i>Use to indicate AO to be notified if award is made (page AA, number 13).</i>  “SE” Selling Party. <i>Use to indicate Applicant Organization (page AA, number 9).</i>	M ID 2/2
M/U	NM102	1065	Entity Type Qualifier “1” Person. <i>Use with Entity Identifier Codes 1B and AD.</i>  “2” Non-person Entity. <i>Use with Entity Identifier Code SE.</i>	M ID 1/1
	NM103	1035	Name Last or Organization Name  <i>Maximum length for last name is 30 characters. (Will IMPAC II change to 35?)</i>  <i>Use N2 segment if Organization Name exceeds 35 characters. Note that future versions of this guide will limit the values permitted for the Applicant Organization Name.</i>	O AN 1/35
	NM104	1036	Name First	O AN 1/25
	NM105	1037	Name Middle <i>Only indicate middle initial with length of 1 character.</i>	O AN 1/25
	NM106	1038	Name Prefix	O AN 1/10
	NM107	1039	Name Suffix <i>Maximum length for name suffix is 5 characters. (Will IMPAC II change to 10?)</i>	O AN 1/10
	NM108	66	Identification Code Qualifier <i>Not captured by NIH for Phase 1.</i>	X ID 1/2
	NM109	67	Identification Code <i>Not captured by NIH for Phase 1.</i>	X AN 2/20
N/U	NM110	706	Entity Relationship Code	X ID 2/2
N/U	NM111	98	Entity Identifier Code	O ID 2/2

### 3.6 N2 Segment (1/100)

**Table / Position:** 1 / 100

**Purpose:** To specify additional names or names longer than 35 characters in length.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N201	93	Address Information <i>Use with NM103 to specify an organization name which is longer than 35 characters. NIH will append N201 to NM103. Maximum length for NM103 + N201 is 40 characters. (Will IMPAC II change to 70?)</i>	M AN 1/35
	N202	93	Address Information <i>Not captured by NIH.</i>	O AN 1/35

### 3.7 N3 Segment (1/110)

**Table / Position:** 1 / 110

**Purpose:** To specify the location of the named party.

Usage	Ref. Des.	ID	Name	Attributes
M/U	N301	166	Address Information <i>Use to indicate street address portion of mailing address.</i>	M AN 1/35
	N302	166	Address Information <i>Use to indicate street address portion of mailing address.</i>	O AN 1/35

### 3.8 N4 Segment (1/120)

**Table / Position:** 1 / 120

**Purpose:** To specify the geographic location of the named party.

Usage	Ref. Des.	Data Elmt	Name	Attributes
	N401	19	City Name	O AN 2/30
	N402	156	State or Province Code	O ID 2/2
	N403	116	Postal Code <i>Maximum length for postal code is 9 characters.</i>	O ID 3/15
	N404	26	Country Code <i>Not captured by NIH for Phase 1.</i>	O ID 2/3
	N405	309	Location Qualifier <i>Not captured by NIH.</i>	X ID 1/2
	N406	310	Location Qualifier <i>Not captured by NIH.</i>	O AN 1/30

### 3.9 N9 Segment (1/130)

**Table / Position:** 1 / 130

**Purpose:** To transmit identifying numbers and descriptive information as specified by the reference number qualifier.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N901	128	Reference Number Qualifier “19” Division Identifier. “5C” Congressional District. “CR” Customer Reference Number. “EI” Employer’s Identification Number. “P5” Position Code.	M ID 2/3
	N902	127	Reference Number <i>Use with qualifier “19” to indicate the Organizational Component Code (page AA, number 11). See PHS 398 Application Kit for relevant codes. Only enter the numeric code; do not enter the descriptive text.</i>  <i>Use with qualifier “5C” to indicate Congressional District (page AA, number 12). Maximum length of Congressional District is 2 characters.</i>  <i>Use with qualifier “CR” to indicate an organization’s IPF number (page AA, number 9). Maximum length of IPF number is 10 characters.</i>  <i>Use with qualifier “EI” to indicate Entity Identification Number (EIN) (page AA, number 12). Maximum length of EIN is 12 characters. If an EIN has not been received, enter the organization’s IRS employer identification number (9 digits).</i>	X AN 1/30
	N903	369	Free-form Description <i>Use with qualifier “P5” to indicate the title of the AO (page AA, number 13) or of the signing official (page AA, number 14). Maximum length of title is 40 characters. Note that future versions of this guide will limit the values permitted for this element.</i>	X AN 1/45
N/U	N904	373	Date	O DT 6/6
N/U	N905	337	Time	X TM 4/8
N/U	N906	623	Time Code	O ID 2/2
N/U	N907	C040	Reference Identifier	O

### 3.10 PER Segment (1/140)

**Table / Position:** 1 / 140

**Purpose:** To identify a person or office to whom administrative communications should be directed.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	PER01	366	Contact Function Code "IC" Information Contact.	M ID 2/2
	PER02	93	Name <i>Not captured by NIH.</i>	O AN 1/35
M/U	PER03	365	Communication Number Qualifier <i>Use PER03-PER08 to indicate the e-mail address, telephone number, and FAX number for the AO and Signing Official. These correlate to page AA, 13 and 14.</i>  <i>Maximum length for telephone number is 25 characters.</i>  <i>Maximum length for FAX number is 25 characters.</i>	X ID 2/2
M/U	PER04	364	Communication Number	X AN 1/80
	PER05	365	Communication Number Qualifier	X ID 2/2
	PER06	364	Communication Number	X AN 1/80
	PER07	365	Communication Number Qualifier	X ID 2/2
	PER08	364	Communication Number	X AN 1/80
N/U	PER09	443	Contact Inquiry Reference	O AN 1/20

### 3.11 HL Segment (2/010)

**Table / Position:** 2 / 010

**Purpose:** To identify dependencies among the content of hierarchically related groups of data segments.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	HL01	628	Hierarchical ID Number	M AN 1/12
	HL02	734	Hierarchical Parent ID Number	O AN 1/12
M/U	HL03	735	Hierarchical Level Code “4” Group ( <i>Human Subject, page AA, number 4</i> ).  “AS” Animal Subject Group ( <i>Vertebrate Animals, page AA, number 5</i> ).  “CO” Consortium ( <i>use for Consortium/Contractual Costs, page DD and EE</i> ).  “PC” Project Code ( <i>use for first iteration of loop</i> ).	M ID 1/2
	HL04	736	Hierarchical Child Code	O ID 1/1

### 3.12 QTY Segment (2/020)

**Table / Position:** 2 / 020

**Purpose:** To specify quantity information.

**Notes:** 1. No information in this segment is captured by NIH for Phase 1. The QTY segment is provided for the purpose of illustrating uses of the HL loop.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	QTY01	673	Quantity Qualifier “IK” Time Units. “S7” Age, High Value. “S8” Age, Low Value. “TO” Total.	M ID 2/2
M/U	QTY02	380	Quantity	M R 1/15
M/U	QTY03	C001	Composite Unit of Measure	O
M/U	C00101	355	Unit or Basis for Measurement Code “DA” Days “EA” Each “MO” Months “YR” Years	M ID 2/2

### 3.13 AMT Segment (2/030)

**Table / Position:** 2 / 030

**Purpose:** To specify quantity information.

**Notes:** 1. No information in this segment is captured by NIH for Phase 1. The AMT segment is provided for the purpose of illustrating uses of the HL loop.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AMT01	522	Amount Qualifier Code “G3” Price per Unit Area. “SP” Sales Price.	M ID 1/2
M/U	AMT02	782	Monetary Amount	M R 1/15
N/U	AMT03	478	Credit/Debit Flag Code	O ID 1/1

### 3.14 DTM Segment (2/050)

**Table / Position:** 2 / 050

**Purpose:** To specify pertinent dates and times.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	DTM01	374	Date/Time Qualifier “193” Period Start. “194” Period End.	M ID 3/3
M/U	DTM02	373	Date <i>Use with “193” to indicate Dates of Proposed Period of Support (page AA, number 6 (From)). See PHS 398 Application Kit for selecting an appropriate beginning date.</i>  <i>Use with “194” to indicate Dates of Proposed Period of Support (page AA, number 6 (Through)). See PHS 398 Application Kit for specifying an appropriate ending date.</i>  <i>U.S. applicant organizations can request no more than 5 years of support.</i>	X DT 6/6
N/U	DTM03	337	Time	X TM 4/8
N/U	DTM04	623	Time Code	O ID 2/2
	DTM05	624	Century <i>Not captured by NIH for Phase 1.</i>	O NO 2/2
N/U	DTM06	1250	Date Time Period Format Qualifier	X ID 2/3
N/U	DTM07	1251	Date Time Period	X AN 1/35

### 3.15 PAM Segment (2/060)

**Table / Position:** 2 / 060

**Purpose:** To indicate a quantity, and/or amount for an identified period.

**Note:** 1. No information in this segment is captured by NIH for Phase 1.

Usage	Ref. Des.	Data Elmt	Name	Attributes
	PAM01	673	Quantity Qualifier “A3” Most Likely Duration. “DY” Days.	X ID 2/2
	PAM02	380	Quantity	X R 1/15
	PAM03	C001	Composite Unit of Measure	X
M/U	PAM03:01	355	Unit or Basis for Measurement Code “MO” Months. “DA” Days.	M ID 2/2
	PAM04	522	Amount Qualifier Code	X ID 1/2
	PAM05	782	Monetary Amount	X R 1/15
	PAM06	344	Unit of Time Period or Interval	X ID 2/2
	PAM07	374	Date/Time Qualifier	X ID 3/3
	PAM08	373	Date	X DT 6/6
N/U	PAM09	337	Time	X TM 4/8
	PAM10	374	Date/Time Qualifier	X ID 3/3
	PAM11	373	Date	X DT 6/6
N/U	PAM12	337	Time	X TM 4/8
	PAM13	1004	Percent Qualifier	X ID 1/2
	PAM14	954	Percent	X R 1/10

### 3.16 NX1 Segment (2/080)

**Table / Position:** 2 / 080

**Purpose:** To define the attributes of a property or an entity.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	NX101	98	Entity Identifier Code “21” Small Business (Small Business) “2F” State (State). “2R” Federal Facility (Federal). “8E” Minority Institution (Public). “A8” Nonprofit Institution (Private Nonprofit). “B9” Large Business (For Profit). “C6” Municipality (Local). “M8” Educational Institution (Public).  <i>Correlates to Type of Organization, page AA, number 10.</i>  <i>A maximum of 1 organization type is permitted per organization.</i>	M ID 2/2
	NX102	98	Entity Identifier Code <i>Not Captured by NIH.</i>	O ID 2/2
	NX103	98	Entity Identifier Code <i>Not Captured by NIH.</i>	O ID 2/2
	NX104	98	Entity Identifier Code <i>Not Captured by NIH.</i>	O ID 2/2
	NX105	98	Entity Identifier Code <i>Not Captured by NIH.</i>	O ID 2/2

### 3.17 YNQ Segment (2/090)

**Table / Position:** 2 / 090

**Purpose:** To identify and answer yes and no questions, including the date, time, and comments further qualifying the condition.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	YNQ01	1321	Condition Indicator “H2” Human Anatomical Substances Are Used. <i>Correlates to page AA, number 4.</i>	X ID 2/2
M/U	YNQ02	1073	Yes/No Condition or Response Code “N” No. “Y” Yes.	M ID 1/1
N/U	YNQ03	1250	Date Time Period Format Qualifier	X ID 2/3
N/U	YNQ04	1251	Date Time Period	X AN 1/35
	YNQ05	933	Free-form Message Text <i>Not captured by NIH.</i>	O AN 1/264
	YNQ06	933	Free-form Message Text <i>Not captured by NIH.</i>	O AN 1/264
	YNQ07	933	Free-form Message Text <i>Not captured by NIH.</i>	O AN 1/264
N/U	YNQ08	1270	Code List Qualifier Code	X ID 1/3
N/U	YNQ09	1271	Industry Code	X AN 1/30
N/U	YNQ10	933	Free-Form Message Text	X AN 1/264

### 3.18 N9 Reference Number (2/100)

**Table / Position:** 2 / 100

**Purpose:** To transmit identifying numbers and descriptive information as specified by the reference number qualifier.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N901	128	Reference Number Qualifier “F4” Facility Certification Number. “L4” Proposal Paragraph Number. “WI” Waiver. “Y9” Current Certificate Number.	M ID 2/3
M/U	N902	127	Reference Number <i>Use with qualifier “F4” to indicate Assurance of Compliance Number (page AA, number 4b). Maximum length of Assurance of Compliance number is 9 characters.</i>  <i>Use with qualifier “Y9” to indicate Animal Welfare Assurance Number (page AA, number 5b). Maximum length of Animal Welfare Assurance Number is 9 characters.</i>  <i>Use with qualifier “WI” to indicate Human Subjects Exemption Number (page AA, number 4a). See the 398 Application Kit for the exemption categories and corresponding exemption numbers. Maximum length of Human Subjects Exemption Number is 4 characters.</i>  <i>Use with qualifier “L4” to indicate the abstract (page BB). Cite the letter “A”.</i>  <i>Use with qualifier “L4” to indicate the Budget Justification (page EE). Cite the letters “C.1”.</i>  <i>Use with qualifier “L4” to indicate the Research Plan Specific Aims. Cite the letters “B.2”.</i>	X AN 1/30
	N903	369	Free-form Description <i>Use with qualifier “F4” to cite the type of review: FULL or EXPEDITED (page AA, number 4a). If the IRB review is delayed beyond submission of the application, cite the word “PENDING” .</i>  <i>Use with qualifier “Y9” to indicate that the IACUC review is delayed beyond submission of the application (page AA, number 5a). Cite the word “PENDING”.</i>  <i>Not used by NIH with qualifiers “L4” and “WI”.</i>	X AN 1/45

	N904	373	Date <i>Use with qualifier "F4" to indicate the IRB approval date (page AA, number 4a).</i>  <i>Use with qualifier "Y9" to indicate the IACUC approval date (page AA, number 5a).</i>	O DT 6/6
N/U	N905	337	Time	X TM 4/8
N/U	N906	623	Time Code	O ID 2/2
N/U	N907	C040	Reference Identification	O

### 3.19 MTX Segment (2/110)

**Table / Position:** 2 / 110

**Purpose:** To specify textual data.

Usage	Ref. Des.	Data Elmt	Name	Attributes
N/U	MTX01	363	Note Reference Code	O ID 3/3
M/U	MTX02	1551	Message Text <i>Use to transmit the abstract, page BB. The abstract must be constrained to ASCII characters. Maximum length for the abstract is 4M.</i>  <i>Use to transmit the Budget Justification (page EE). Reference the PHS 398 Application Kit for further instructions on information to be placed in the Budget Justification. Maximum length for the budget justification is 4M.</i>  <i>Use to transmit the Research Plan Specific Aims. Maximum length for the specific aims is 4M.</i>	X AN 1/4096
	MTX03	1551	Message Text <i>Not captured by NIH.</i>	O AN 1/4096
N/U	MTX04	934	Printer Carriage Control Code	O ID 2/2

### 3.20 PPL Segment (2/170)

**Table / Position:** 2 / 170

**Purpose:** To provide information about pricing support.

Usage	Ref. Des.	Data Elmt	Name	Attributes
N/U	PPL01	1309	Acquisition Data Code	O ID 2/2
N/U	PPL02	373	Date	O DT 6/6
N/U	PPL03	373	Date	O DT 6/6
	PPL04	352	Description <i>Cite "1" to indicate first budget year. This correlates to page AA, numbers 7a and 7b, and page DD.</i>  <i>Cite "2", "3", "4", and "5" to indicate Additional Years of Support. These correlate to page EE, ADDITIONAL YEARS OF SUPPORT REQUESTED, Columns "2nd", "3rd", "4th", and "5th" respectively.</i>  <i>Cite "T" to indicate the total budget. This correlates to page AA, numbers 8a and 8b.</i>	O AN 1/80
M/U	PPL05	1401	Proposal Data Detail Identifier Code "AC" Negotiated Amount.	O ID 1/3

### 3.21 PD Segment (2/190)

**Table / Position:** 2 / 190

**Purpose:** To describe the pricing basic input detail.

**Notes:** 1. *The iteration of the PD loop to identify the fringe benefits for an individual (PD07 code “49”) must immediately follow the iteration of the PD loop that identifies that individual (PD07 code “01”).*

2. *This Implementation Guide mandates the following method for specifying a labor category comprising multiple persons:*

- *Set PD08 to the numeric value of “1”, use PD09 to identify the labor category, and repeat this process for the total of persons in the labor category.*

*If, for example, a labor category comprises six nurses: set PD08 to the numeric value of 1, set PD09 to the value of “NURSE”, and repeat this process for a total of six iterations.*

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	PD01	344	Unit of Time Period or Interval <i>Not captured by NIH. For the purpose of clarity, NIH recommends using the code “CC” with the PPL04 value of “T” to indicate the budget period for the entire project. Use codes “AP”, “SP”, and “CY” to identify an appointment type for an individual.</i>	M ID 2/2
M/U	PD02	373	Date <i>Use to indicate the budget period start date (page DD, “FROM” ). Do not use the academic period. Use the same date for each iteration of the PD loop.</i>	M DT 6/6
M/U	PD03	C001	Composite Unit of Measure	M
M/U	C00101	355	Unit or Basis for Measurement Code “DO” Dollars, U.S. “P1” Percent. <i>Use to indicate fringe benefits.</i>	M ID 2/2
	C00104	355	Unit or Basis for Measurement Code “8S” Session. <i>Use with PD03:01 “DO” when dealing with personnel labor costs.</i>	O ID 2/2

M/U	PD04	380	<p>Quantity</p> <p><i>Use with PD03:04 "8S" to indicate institutional base salary (page DD, "INST. BASE SALARY").</i></p> <p><i>Use with PD03:01 "P1" to indicate the percentage for fringe benefits.</i></p> <p><i>Cite "1" when PD03-1 is "DO" and PD03:04 is not used to meet X12 syntax rules.</i></p> <p><i>All monetary amounts are constrained to ten decimal places, including the decimal point and cents (the decimal point and cents are optional).</i></p>	M R 1/15
M/U	PD05	93	<p>Name</p> <p><i>Not captured by NIH. Use to identify a budget category by a short-hand means.</i></p>	M AN 1/35
	PD06	352	<p>Description</p> <p><i>Not captured by NIH. Use to identify a budget category by a long-hand description.</i></p>	O AN 1/80
M/U	PD07	1196	<p>Breakdown Structure Detail Code</p> <p>"01" Labor.</p> <p>"03" Other Direct Costs.</p> <p>"04" Subcontract.</p> <p>"06" Labor Overhead.</p> <p>"09" Total Overhead.</p> <p>"28" Total.</p> <p>"33" General and Administrative.</p> <p>"36" Total Price.</p> <p>"38" Total Cost Plus General and Administrative.</p> <p>"39" Other Costs.</p> <p>"42" Purchased Equipment.</p> <p>"43" Materials and Purchased Items.</p> <p>"46" Commercial Effort.</p> <p>"48" Indirect Labor.</p> <p>"49" Employee Benefits.</p> <p>"52" Communications and Travel.</p> <p>"55" Facilities - Furniture and Equipment.</p> <p>"70" Total Salaries and Wages.</p> <p>"71" Total Salaries and Wages and Employee Benefits.</p> <p>"72" Total Purchased Equipment.</p> <p>"80" Publication Costs.</p> <p>"81" Consultant Services.</p> <p>"82" ADP Services.</p> <p>"84" Total Direct Costs.</p> <p>"85" Human Subject Costs.</p> <p>"86" Animal Costs.</p> <p>"87" Alterations and Renovations.</p> <p>"BL" Billings.</p> <p>"ZZ" Mutually Defined.</p>	O ID 2/2

	PD08	127	<p>Reference Identification</p> <p><i>If PD09 identifies a project role (e.g., Principal Investigator - a name of a person must be associated with a project role), use to indicate the Name of a Key Person (page DD, "NAME"). Maximum length constraint for middle initial is 1 character. (NOTE: What should be done if the name exceeds 30 characters?)</i></p> <p><i>If PD09 identifies a labor category (e.g., Technician - a name of a person cannot be associated with a labor category), use the number "1" to indicate one FTE.</i></p>	O AN 1/30
	PD09	352	<p>Description</p> <p><i>Use to identify a project role or a labor category. This corresponds to page DD, "ROLE ON PROJECT". For the role of principal investigator, use the letters "PI". Maximum length constraint for a project role or labor category is 30 characters. Note that future versions of this guide will limit the values permitted for this element.</i></p>	O AN 1/80
N/U	PD10	1401	Proposed Data Detail Identifier Code	O ID 1/3

### 3.22 PDD Segment (2/200)

**Table / Position:** 2 / 200

**Purpose:** To provide the rates, direct input, and pricing factors for each element of work, cross-referenced to an applicable request or submission.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	PDD01	350	Assignment Identification <i>Use to indicate the number of months in the period specified by PD01. For a person, use to indicate the type of appointment (page DD, "TYPE APPT.")</i>	M AN 1/20
	PDD02	380	Quantity <i>When PD03:01 is code "DO" and PD03:04 is code "8S", use to indicate the level of effort in months for the period.</i>  <i>When PD03:01 is code "P1", use to indicate the salary requested (page DD, "SALARY REQUESTED").</i>  <i>When PD07 is code 42, use to indicate the number of items being purchased, if applicable.</i>	X R 1/15
M/U	PDD03	782	Monetary Amount <i>Use to indicate the budget amount requested in PD07. If used to identify an individual's salary, and the person is requesting no salary, cite a value of "0".</i>  <i>When PD03:01 is code "DO" and PD03:04 is code "8S", use to indicate the salary requested (page DD, "SALARY REQUESTED"). Use with PD07 code "01".</i>  <i>When PD03:01 is code "P1", use to indicate the fringe benefits (page DD, "FRINGE BENEFITS"). Use with PD07 code of "49".</i>  <i>Use with PD07 code "70" to indicate page DD, SUBTOTALS - SALARY REQUESTED.</i>  <i>Use with PD07 code "48" to indicate page DD, SUBTOTALS - FRINGE BENEFITS.</i>  <i>Use with PD07 code "71" to indicate page DD, SUBTOTALS - TOTALS and page EE, PERSONNEL.</i>  <i>Use with PD07 code "81" to indicate pages DD and EE, CONSULTANT COSTS.</i>  <i>Use with PD07 code "72" to indicate pages DD and EE, EQUIPMENT.</i>	X R 1/15

			<p><i>Use with PD07 code “43” to indicate pages DD and EE, SUPPLIES.</i></p> <p><i>Use with PD07 code “52” to indicate pages DD and EE, TRAVEL.</i></p> <p><i>Use with PD07 code “85” to indicate pages DD and EE, INPATIENT COSTS.</i></p> <p><i>Use with PD07 code “BL” to indicate pages DD and EE, OUTPATIENT COSTS.</i></p> <p><i>Use with PD07 code “87” to indicate pages DD and EE, ALTERATIONS AND RENOVATIONS.</i></p> <p><i>Use with PD07 code “39” to indicate pages DD and EE, OTHER EXPENSES.</i></p> <p><i>Use with PD07 code “04” to indicate pages DD and EE, CONSORTIUM COSTS. To indicate direct and indirect consortium costs, use PD07 codes “84” and “09” respectively in the Consortium HL loop (HL03 code of “CO”).</i></p> <p><i>Use with PD07 code “84” to indicate page DD, TOTAL DIRECT COSTS FOR INITIAL BUDGET PERIOD, page EE, TOTAL DIRECT COSTS, and page AA, numbers 7a and 8a.</i></p> <p><i>Use with PD07 code “38” to indicate total costs, page AA, numbers 7b and 8b.</i></p> <p><i>All monetary amounts are constrained to ten decimal places, including the decimal point and cents (the decimal point and cents are optional).</i></p>	
	PDD04	954	<p>Percent</p> <p><i>Use to indicate the percent of effort on project by a person (page DD, “% EFFORT ON PROJ.”). Round percent to nearest integer; do not use decimal point. Maximum number of digits is 3.</i></p>	X R 1/10
N/U	PDD05	1401	Proposal Data Detail Identifier Code	O ID 1/3

### 3.23 LX Segment (2/330)

**Table / Position:** 2 / 330

**Purpose:** To reference a line number in a transaction set.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	LX01	554	Assigned Number	M NO 1/6

### 3.24 NM1 Segment (2/340)

**Table / Position:** 2 / 340

**Purpose:** To supply the full name of an individual or organizational entity.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	NM101	98	Entity Identifier Code “9P” Investigator. <i>Use to indicate the principal investigator.</i>  “61” Performed At. <i>Used to indicate Performance Site(s) (page BB).</i>  “9K” Key Person. <i>Used to indicate the Name of Key Personnel (page BB).</i>	M ID 2/2
M/U	NM102	1065	Entity Type Qualifier “1” Person. <i>Use with Entity Identifier Codes “9P” and “9K”.</i>  “2” Non-person Entity. <i>Use with Entity Identifier Codes “61”.</i>	M ID 1/1
	NM103	1035	Name Last or Organization Name <i>Maximum length for last name is 30 characters (Will IMPAC II change to 35?)</i>  <i>Use N2 segment if Organization Name exceeds 35 characters</i>	O AN 1/35
	NM104	1036	Name First	O AN 1/25
	NM105	1037	Name Middle <i>Only indicate middle initial with length of 1 character.</i>	O AN 1/25
	NM106	1038	Name Prefix	O AN 1/10
	NM107	1039	Name Suffix <i>Maximum length for name suffix is 5 characters. (Will IMPAC II change to 10?)</i>	O AN 1/10

	NM108	66	Identification Code Qualifier <i>Not captured by NIH for Phase 1.</i>	X ID 1/2
	NM109	67	Identification Code <i>Not captured by NIH for Phase 1.</i>	X AN 2/20
N/U	NM110	706	Entity Relationship Code	X ID 2/2
N/U	NM111	98	Entity Identifier Code	O ID 2/2

### 3.25 N2 Segment (2/350)

**Table / Position:** 2 / 350

**Purpose:** To specify additional names or names longer than 35 characters in length.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N201	93	Address Information <i>Use with NM103 to specify an organization name which is longer than 35 characters. NIH will append N301 to NM103. Maximum length for NM103 + N201 is 40 characters. (Will IMPAC II change to 70?)</i>  <i>Use with NM101 codes "9P" and "9K" to indicate the Organization for KEY PERSONNEL, page BB (NM103 is used for the person's last name).</i>	M AN 1/35
	N202	93	Address Information <i>Not captured by NIH.</i>	O AN 1/35

### 3.26 N3 Segment (2/360)

**Table / Position:** 2 / 360

**Purpose:** To specify the location of the named party.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N301	166	Address Information <i>Use to indicate street address portion of mailing address.</i>	M AN 1/35
	N302	166	Address Information <i>Use to indicate street address portion of mailing address.</i>	O AN 1/35

### 3.27 N4 Segment (2/370)

**Table / Position:** 2 / 370

**Purpose:** To specify the geographic location of the named party.

Usage	Ref. Des.	Data Elmt	Name	Attributes
	N401	19	City Name	O AN 2/30
	N402	156	State or Province Code	O ID 2/2
	N403	116	Postal Code <i>Maximum length for Postal Code is 9 characters.</i>	O ID 3/15
	N404	26	Country Code <i>Not captured by NIH for Phase 1.</i>	O ID 2/3
	N405	309	Location Qualifier <i>Not captured by NIH.</i>	X ID 1/2
	N406	310	Location Qualifier <i>Not captured by NIH.</i>	O AN 1/30

### 3.28 PER Segment (2/375)

**Table / Position:** 2 / 375

**Purpose:** To identify a person or office to whom administrative communications should be directed.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	PER01	366	Contact Function Code "IC" Information Contact.	M ID 2/2
N/U	PER02	93	Name	O AN 1/35
M/U	PER03	365	Communication Number Qualifier <i>Use PER03-PER08 to indicate the e-mail address, telephone number, and FAX number for the PI. This correlates to page AA, numbers 3e (e-mail) and 3h.</i>  <i>Maximum length for telephone number is 25 characters.</i>  <i>Maximum length for FAX number is 25 characters.</i>	X ID 2/2
M/U	PER04	364	Communication Number	X AN 1/80
	PER05	365	Communication Number Qualifier	X ID 1/2
	PER06	364	Communication Number	X AN 1/80
	PER07	365	Communication Number Qualifier	X ID 1/2
	PER08	364	Communication Number	X AN 1/80
N/U	PER09	443	Contact Inquiry Reference	O AN 1/20

### 3.29 DMG Segment (2/380)

**Table / Position:** 2 / 380

**Purpose:** To supply demographic information.

Usage	Ref. Des.	Data Elmt	Name	Attributes
N/U	DMG01	1250	Date Time Period Format Qualifier	X ID 2/3
N/U	DMG02	1251	Date Time Period	X AN 1/35
	DMG03	1068	Gender Code <i>Not captured by NIH for Phase 1.</i>	O ID 1/1
N/U	DMG04	1067	Marital Status Code	O ID 1/1
	DMG05	1109	Race or Ethnicity Code <i>Not captured by NIH for Phase 1.</i>	O ID 1/1
	DMG06	1066	Citizenship Status Code <i>Not captured by NIH for Phase 1.</i>	O ID 1/2
N/U	DMG07	26	Country Code	O ID 2/3
N/U	DMG08	659	Basis of Verification Code	O ID 1/2
N/U	DMG09	380	Quantity	O R 1/15

### 3.30 EMS Segment (2/390)

**Table / Position:** 2 / 390

**Purpose:** To describe employment position.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	EMS01	352	Description <i>Use to indicate the Role on Project for KEY PERSONNEL (page BB). Maximum length for Role on Project is 30 characters. Note that future versions of this guide will limit the values permitted for this element.</i>	M AN 1/80
N/U	EMS02	1176	Employment Class Code	O ID 2/3
N/U	EMS03	1149	Occupation Code	O ID 4/6
	EMS04	584	Employment Status Code <i>Not captured by NIH for Phase 1.</i>	O ID 2/2
N/U	EMS05	128	Reference Number Qualifier	X ID 2/3
N/U	EMS06	127	Reference Number	X AN 1/30
N/U	EMS07	127	Reference Number	O AN 1/30

### 3.31 N9 Segment (2/400)

**Table / Position:** 2 / 400

**Purpose:** To transmit identifying numbers and descriptive information as specified by the reference number qualifier.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	N901	128	Reference Number Qualifier “19” Division Identifier. “DP” Department Number. “P5” Position Code. “SY” Social Security Number.	M ID 2/3
M/U	N902	127	Reference Number <i>Use with qualifier “19” to indicate Major Subdivision, e.g., School of Medicine (page AA, number 3g). Note that future versions of this guide will limit the values permitted for this element.</i>  <i>Use with qualifier “DP” to indicate Department, e.g., Material Research Laboratory (page AA, number 3f). Note that future versions of this guide will limit the values permitted for this element.</i>  <i>Use with qualifier “SY” to indicate PI’s SSN (page AA, number 3c). Maximum length of SSN is 9 characters.</i>	X AN 1/30
	N903	369	Free-form Description <i>Use with qualifier “P5” to indicate the position title of the PI (page AA, number 3d). Maximum length of position title is 40 characters. Cite a value of “1” in N902 to preserve X12 syntax rules. Note that future versions of this guide will limit the values permitted for this element.</i>	X AN 1/45
	N904	373	Date <i>Not captured by NIH</i>	O DT 6/6
N/U	N905	337	Time	X TM 4/8
N/U	N906	623	Time Code	O ID 2/2
	N907	C040	Reference Identifier <i>Not captured by NIH.</i>	O

### 3.32 DEG Segment (2/420)

**Table / Position:** 2 / 420

**Purpose:** To provide the receiving institution or agency notice of academic awards made to the student whose record is being transmitted.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	DEG01	1126	Academic Degree Code <i>Not captured by NIH for Phase 1.</i>	M ID 3/3
M/U	DEG02	1250	Date Time Period Format Qualifier “CM”.	X ID 2/3
M/U	DEG03	1251	Date Time Period	X AN 1/35
	DEG04	352	Description <i>Use free-form text to indicate degree(s) of PI. Correlates to page AA, number 3b. Maximum length for a degree is 4 characters. Maximum number of degrees is three. Note that future versions of this guide will limit the values permitted for this element.</i>	O AN 1/80
N/U	DEG05	641	Status Reason Code	O ID 3/3

### 3.33 SE Segment (2/480)

**Table / Position:** 2 / 480

**Purpose:** To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments).

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	SE01	96	Number of Included Segments	M NO 1/10
M/U	SE02	329	Transaction Set Control Number	M AN 4/9

## 4. 997 Transaction Set

Upon receipt of a 194 transaction set, NIH performs a syntactical analysis on the data received. NIH uses the 997 transaction set to inform the originator of the 194 whether the 194 was accepted or rejected. If syntactical errors are encountered, the 997 conveys the relevant information concerning the errors. Note that the 997 is not used to indicate a response to the semantic meaning of information encoded in the 194 transaction.

<u>Pos No</u>	<u>Seg ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max Use</u>	<u>Repeat</u>
010	ST	Transaction Set Header	M	1	
020	AK1	Functional Group Response Header	M	1	
		LOOP ID - AK2			999999
030	AK2	Transaction Set Response Header	O	1	
		LOOP ID - AK3			999999
040	AK3	Data Segment Note	O	1	
050	AK4	Data Element Note	O	99	
060	AK5	Transaction Set Response Trailer	M	1	
070	AK9	Functional Group Response Trailer	M	1	
080	SE	Transaction Set Trailer	M	1	

### 4.1 ST Segment

**Position:** 010

**Purpose:** To indicate the start of a transaction set and to assign a control number.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	ST01	143	Transaction Set Identifier Code "997"	M ID 3/3
M/U	ST02	329	Transaction Set Control Number	M AN 4/9

### 4.2 AK1 Segment

**Position:** 020

**Purpose:** To start acknowledgment of a functional group.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK101	479	Functional Identifier Code	M ID 2/2
M/U	AK102	28	Group Control Number	M NO 1/9

### 4.3 AK2 Segment

**Position:** 030

**Purpose:** To start acknowledgment of a single transaction set.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK201	143	Transaction Set Identifier Code	M ID 3/3
M/U	AK202	329	Transaction Set Control Number	M AN 4/9

### 4.4 AK3 Segment

**Position:** 040

**Purpose:** To report errors in a data segment and to identify the location of the data segment.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK301	721	Segment ID Code	M ID 2/3
M/U	AK302	719	Segment Position in Transaction Set	M NO 1/6
	AK303	447	Loop Identifier Code	O AN 1/4
	AK304	720	Segment Syntax Error Code <i>Identifies why NIH rejected the segment.</i>	O ID 1/3

### 4.5 AK4 Segment

**Position:** 050

**Purpose:** To report errors in a data element and to identify the location of the data element.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK401	C030	Position in Segment	M
M/U	C03001	722	Element Position in Segment	M NO 1/2
	C003002	1528	Component Data Element Position in Composite	O NO 1/2
	AK402	725	Data Element Reference Number	O NO 1/4
M/U	AK403	723	Data Element Syntax Error Code <i>Identifies why NIH rejected the data element.</i>	M ID 1/3
O	AK404	724	Copy of Bad Data Element	O AN 1/99

## 4.6 AK5 Segment

**Position:** 060

**Purpose:** To acknowledge acceptance or rejection and to report errors in a transaction set.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK501	717	Transaction Set Acknowledgment Number “A” Accepted “E” Accepted But Errors Were Found “P” Partially Accepted	M ID 1/1
	AK502	718	Transaction Set Syntax Error Code	O ID 1/3
	AK503	718	Transaction Set Syntax Error Code	O ID 1/3
	AK504	718	Transaction Set Syntax Error Code	O ID 1/3
	AK505	718	Transaction Set Syntax Error Code	O ID 1/3
	AK506	718	Transaction Set Syntax Error Code	O ID 1/3

#### 4.7 AK9 Segment

**Position:** 070

**Purpose:** To acknowledge acceptance or rejection of a functional group and to report the number of included transaction sets from the original trailer, the accepted sets, and the received sets in this functional group.

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	AK901	715	Functional Group Acknowledgment Code “A” Accepted “E” Accepted But Errors Were Found “P” Partially Accepted	M ID 1/1
M/U	AK902	97	Number of Transaction Sets Included	M NO 1/6
M/U	AK903	123	Number of Received Transaction Sets	M NO 1/6
M/U	AK904	2	Number of Accepted Transaction Sets	M NO 1/6
	AK905	716	Function Group Syntax Error Code	O ID 1/3
	AK906	716	Function Group Syntax Error Code	O ID 1/3
	AK907	716	Function Group Syntax Error Code	O ID 1/3
	AK908	716	Function Group Syntax Error Code	O ID 1/3
	AK909	716	Function Group Syntax Error Code	O ID 1/3

#### 4.8 SE Segment

**Position:** 080

**Purpose:** To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments).

Usage	Ref. Des.	Data Elmt	Name	Attributes
M/U	SE01	96	Number of Included Segments	M NO 1/10
M/U	SE02	329	Transaction Set Control Number	M AN 4/9

## **Appendix A. Sample PHS 398 Application and 194 Transaction Set**

This appendix contains a sample PHS 398 application (pages AA, BB, DD, and EE). The sample application is followed by the corresponding X12 194 transaction set. Note that within the transaction set, certain data elements are italic and bold. These data elements are mapped directly to fields in an NIH database.

Department of Health and Human Services Public Health Services  <h2 style="text-align: center;">Grant Application</h2> <p style="text-align: center;"><i>Follow instructions carefully. Do not exceed character length restrictions indicated on sample.</i></p>		LEAVE BLANK—FOR PHS USE ONLY.				
		Type	Activity	Number		
		Review Group	Formerly			
		Council/Board (Month, Year)		Date Received		
1. TITLE OF PROJECT (Do not exceed 56 characters, including spaces and punctuation.) Vitamin E Atherosclerosis Prevention Study						
2. RESPONSE TO SPECIFIC REQUEST FOR APPLICATIONS OR PROGRAM ANNOUNCEMENT x NO YES (If "Yes," state number and title) Number: Title:						
<b>3. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR</b>						
3a. NAME (Last, first, middle) Galilei, Galileo, N.		3b. DEGREE(S) B.S., M.D.,		3c. SOCIAL SECURITY NO. 123-45-6789		
3d. POSITION TITLE Assistant Professor		3e. MAILING ADDRESS (Street, city, state, zip code) University of Southern California Atherosclerosis Research Unit 2250 Alcazar St., CSC-132 Los Angeles, CA 90033  E-MAIL ADDRESS: ggalileo@usc.edu				
3f. DEPARTMENT, SERVICE, LABORATORY, OR EQUIVALENT MDK						
3g. MAJOR SUBDIVISION 01						
3h. TELEPHONE AND FAX (Area code, number and extension) TEL: (213) 342 1478 FAX: (213) 342 2685						
4. HUMAN SUBJECTS No x Yes		4a. If "Yes," Exemption no. or IRB approval date <input type="checkbox"/> Full IRB or <input type="checkbox"/> Expedited Review Pending		4b. Assurance of compliance no. M137201XB		
		5. VERTEBRATE ANIMALS No x Yes		5a. If "Yes," IACUC approval date 02/01/94		
				5b. Animal welfare assurance no. A3033-01		
6. DATES OF PROPOSED PERIOD OF SUPPORT (month, day, year—MM/DD/YY) From 04/01/95 Through 04/01/97		7. COSTS REQUESTED FOR INITIAL BUDGET PERIOD 7a. Direct Costs (\$) \$470,757		8. COSTS REQUESTED FOR PROPOSED PERIOD OF SUPPORT 7b. Total Costs (\$) \$470,757 8a. Direct Costs (\$) \$1,098,404 8b. Total Costs (\$) \$1,098,404		
9. APPLICANT ORGANIZATION Name IPF # 7636101 Address		10. TYPE OF ORGANIZATION Public: → Federal State Local Private: → x Private Nonprofit Forprofit: → General Small Business				
		11. ORGANIZATIONAL COMPONENT CODE 01				
		12. ENTITY IDENTIFICATION NUMBER 1951642394A1		Congressional District		
13. ADMINISTRATIVE OFFICIAL TO BE NOTIFIED IF AWARD IS MADE Name Tycho H. Brahe Title Deputy Director Address Dept of Contracts and Grants 1450 San Pablo St, DEI-5416 Los Angeles, CA 90033 Telephone (213) 342 2396 FAX (213) 342 2835 E-Mail tbrahe@mizar.usc.edu Address		14. OFFICIAL SIGNING FOR APPLICATION ORGANIZATION Name Giordano Bruno Jr. Title Provost & Senior VP for Academic Affairs Address Dept of Contracts and Grants 1450 San Pablo St, DEI-5416 Los Angeles, CA 90033 Phone (213) 342 2396 FAX (213) 342 2835 E-Mail Address				
15. PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR ASSURANCE: I certify that the statements herein are true, complete and accurate to the best of my knowledge. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. I agree to accept responsibility for the scientific conduct of the project and to provide the required progress reports if a grant is awarded as a result of this application.		SIGNATURE OF PI/PD NAMED IN 3a. (In ink. "Per" signature not acceptable.)		DATE 06/02/94		
16. APPLICATION ORGANIZATION CERTIFICATION AND ACCEPTANCE: I certify that the statements herein are true, complete and accurate to the best of my knowledge, and accept the obligation to comply with Public Health Services terms and conditions if a grant is awarded as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.		SIGNATURE OF OFFICIAL NAMED IN 14. (In ink. "Per" signature not acceptable.)		DATE 06/02/94		

DESCRIPTION: State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project. Describe concisely the research design and methods for achieving these goals. Avoid summaries of past accomplishments and the use of the first person. This abstract is meant to serve as a succinct and accurate description of the proposed work when separated from the application. If the application is funded, this description, as is, will become public information. Therefore, do not include proprietary/confidential information. **DO NOT EXCEED THE SPACE PROVIDED.**

This is where the abstract would go.

PERFORMANCE SITE(S) (*organization, city, state*)  
University of Southern California, Los Angeles, CA  
Pharmacology Research Laboratory, Los Angeles, CA

KEY PERSONNEL. See instructions on Page 11. *Use continuation pages as needed* to provide the required information in the format shown below.

Name	Organization	Role on Project
Copernicus, Nicholas	University of Southern California	Co-Principal Investigator
Newton, Isaac	University of Southern California	Co-Principal Investigator

DETAILED BUDGET FOR INITIAL BUDGET PERIOD DIRECT COSTS ONLY					FROM 04/01/95	THROUGH 04/01/96	
PERSONNEL (Applicant organization only)		TYPE APPT. (months)	% EFFORT ON PROJ.	INST. BASE SALARY	DOLLAR AMOUNT REQUESTED (omit cents)		
NAME	ROLE ON PROJECT				SALARY REQUESTED	FRINGE BENEFITS	TOTAL
Galilei, Galileo	Principal Investigator	12	40	\$110,000	\$44,000	\$13,772	\$57,772
Copernicus, Nicholas	Co-Principal Investigator	9	20	\$119,719	\$11,972	\$3,747	\$15,719
Copernicus, Nicholas	Co-Principal Investigator	2	100	\$119,719	\$26,602	\$8,326	\$34,928
Newton, Isaac	Co-Investigator	12	10	\$125,000	\$0	\$0	\$0
Keplar, Johannes	Data Clerk	12	50	\$25,331	\$12,666	\$3,964	\$16,630
TBD	Nurse Manager	12	100	\$35,000	\$35,000	\$10,955	\$45,955
TBD	Technician	12	100	\$32,000	\$32,000	\$9,600	\$41,600
TBD	Technician	12	100	\$36,000	\$36,000	\$10,800	\$46,800
<b>SUBTOTALS</b> →					<b>\$198,240</b>	<b>\$61,164</b>	<b>\$259,404</b>
<b>CONSULTANT COSTS</b>							\$22,400
<b>EQUIPMENT (Itemize)</b> Single cell Perfusion Chambers and Filter Sets \$5,500 Centrifuge \$15,000							\$20,500
<b>SUPPLIES (Itemize by category)</b>							\$5,400
<b>TRAVEL</b>							\$4,000
<b>PATIENT CARE COSTS</b>		<b>INPATIENT</b>					\$3,500
		<b>OUTPATIENT</b>					\$84,720
<b>ALTERATIONS AND RENOVATIONS (Itemize by category)</b>							\$28,750
<b>OTHER EXPENSES (Itemize by category)</b> Equipment Maintenance \$1,183; Publication Costs \$1,500; Animal Costs \$4,400; Other Expenses \$35,000							\$42,083
<b>SUBTOTAL DIRECT COSTS FOR INITIAL BUDGET PERIOD</b>						<b>\$</b>	<b>\$470,757</b>
<b>CONSORTIUM/CONTRACTUAL COSTS</b>		<b>DIRECT COSTS</b>					
		<b>INDIRECT COSTS</b>					
<b>TOTAL DIRECT COSTS FOR INITIAL BUDGET PERIOD (Item 7a, Face Page)</b> →						<b>\$</b>	<b>\$470,757</b>

**BUDGET FOR ENTIRE PROPOSED PROJECT PERIOD  
DIRECT COSTS ONLY**

BUDGET CATEGORY TOTALS		INITIAL BUDGET PERIOD <i>(from Form Page 4)</i>	ADDITIONAL YEARS OF SUPPORT REQUESTED			
			2nd	3rd	4th	5th
PERSONNEL: <i>Salary and fringe benefits Applicant organization only</i>		\$259,404	\$465,898			
CONSULTANT COSTS		\$22,400	\$23,296			
EQUIPMENT		\$20,500				
SUPPLIES		\$5,400	\$5,616			
TRAVEL		\$4,000	\$4,098			
PATIENT CARE COSTS	INPATIENT	\$3,500				
	OUTPATIENT	\$84,720	\$87,648			
ALTERATIONS AND RENOVATIONS		\$28,750				
OTHER EXPENSES		\$42,083	\$41,091			
SUBTOTAL DIRECT COSTS		\$470,757	\$627,647			
CONSORTIUM/ CONTRACTUAL COSTS	DIRECT					
	INDIRECT					
<b>TOTAL DIRECT COSTS</b>		\$470,757	\$627,647			

**TOTAL DIRECT COSTS FOR ENTIRE PROPOSED PROJECT PERIOD** *(Item 8a, Face Page)* →

**\$ 1,098,404**

JUSTIFICATION. Follow the budget justification instructions exactly. Use continuation pages as needed.

This is where the budget justification would go.

## Heading:

ST\*194\*123456789<NL>

BGN\*00\*UniversityGrantID01\*940602\*1200\*LT\*\* // Date associated with signing official.  
S4<NL> // Type of application.

---

## N9 Loop:

N9\*4W\*\*TITLE<NL>

MTX\*\*VITAMIN E ATHEROSCLEROSIS // Title of project.  
PREVENTION STUDY<NL>

---

## NM1 Loop:

NM1\*AD\*1\*BRAHE\*TYCHO\*H<NL> // Name of administrative official (AO).

N3\*DEPT OF CONTRACTS & GRANTS\* // Address of AO.  
1450 SAN PABLO ST, DEI-5416<NL>

N4\*LOS ANGELES\*CA\*90033<NL> // Address of AO.

N9\*P5\*\*DEPUTY DIRECTOR<NL> // Title of AO.

PER\*IC\*\*EM\*TBRAHE@MIZAR.USC.EDU\* // Email address of AO.  
FX\*2133422835\*TE\*2133422396<NL> // FAX and telephone of AO.

NM1\*IB\*1\*BRUNO\*GIORDANO\*\*\*JR<NL> // Name of the signing official.

N3\*DEPT OF CONTRACTS & GRANTS\* // Address of the signing official.  
1450 SAN PABLO ST, DEI-5416<NL>

N4\*LOS ANGELES\*CA\*90033<NL> // Address of the signing official.

N9\*P5\*\*PROVOST & SENIOR VP FOR // Title of the signing official.  
ACADEMIC AFFAIRS<NL>

PER\*IC\*\*FX\*2133422835\*TE\*2133422396<NL> // FAX and telephone of the signing official.

NM1\*SE\*2<NL>

N9\*19\*01<NL> // Organizational component code.

N9\*CR\*7636101<NL> // Organization's IPF number.

N9\*EI\*1951642394A1<NL> // Organization's EIN.

---

**Detail:**

**HL Loop:**

HL\*1\*\*PC\*1<NL> // Project loop

DTM\*193\*950401<NL> // Proposed period of support  
(From).

DTM\*194\*970401<NL> // Proposed period of support  
(Through).

PAM\*A3\*24\*MO<NL> // Planned duration of project.

NX1\*A8<NL> // Type of organization.

YNQ\*H2\*Y<NL> // Human subjects used?

---

**N9 Loop:**

N9\*F4\*MI37201XB\*PENDING<NL> // Assurance of compliance number.

N9\*Y9\*A3033-01\*\*  
940201<NL> // Animal welfare assurance number.  
// IACUC approval date.

N9\*L4\*A<NL>

MTX\*\*THIS IS WHERE THE ABSTRACT  
WOULD GO<NL> // Abstract.

N9\*L4\*B.2<NL>

MTX\*\*THIS IS WHERE THE RESEARCH PLAN  
SPECIFIC AIMS WOULD GO<NL> // Research plan specific aims.

N9\*L4\*C.1<NL>

MTX\*\*THIS IS WHERE THE BUDGET  
JUSTIFICATION WOULD GO<NL> // Budget justification.

---

**PPL Loop:**

PPL\*\*\*\*T\*AC<NL> // Begin total project budget.

---

**PD Loop:**

PD\*CC\*950401\*DO\*1\*TPC\*  
Total Project Cost\*38<NL> // Project start date is 950401.

PDD\*24\*\*1098404<NL> // Project is for 24 months; amount

PD\*CC\*950401\*DO\*1\*TPDC\* // of funding requested is \$1,098,404.  
Total Project Direct Cost\*84<NL> // Direct costs for total project budget.

PDD\*24\*\*1098404<NL> // This project has no indirect costs.

---

PPL\*\*\*\*I\*AC<NL> // Begin initial year project budget.

---

**PD Loop:**

PD\*CY\*950401\*DO: :8S\*11000\*DL\* // Institution base salary for person.  
DIRECT LABOR\*01\*GALILEI GALILEO\* // Name of person.  
PI<NL> // Role of person.

PDD\*12\*4.8\*44000\*40<NL> // 12 months for initial budget.  
// 40% of 12 months = 4.8 months.  
// \$44000 is salary requested.  
// 40% effort on project.

PD\*CY\*950401\*P1\*31.3\*DL-FB\* // 31.3 is % fringe benefits.  
DIRECT LABOR - FRINGE BENEFITS\*49\* // Fringe benefits for a person must  
GALILEI GALILEO\*PI<NL> // immediately follow the iteration of  
// the PD loop identifying the person.

PDD\*12\*44000\*13772<NL> // Dollar amount for fringe benefits.

PD\*AP\*950401\*DO: :8S\*119719\*DL\*\*01\* // Next budget entry for person.  
COPERNICUS NICHOLAUS\* // Same structure as previous entry, but  
CO-PRINCIPAL INVESTIGATOR<NL> // uses academic period.

PDD\*9\*1.8\*11972\*20<NL>

PD\*AP\*950401\*P1\*31.3\*DL-FB\*\*49\*COPERNICUS  
NICHOLAUS\*CO-PRINCIPAL INVESTIGATOR<NL>

PDD\*9\*11972\*3747<NL>

PD\*SP\*950401\*DO: :8S\*26602\*DL\*\*01\* // Next budget entry for person.  
COPERNICUS NICHOLAUS\* // This person is budgeted for both  
CO-PRINCIPAL INVESTIGATOR<NL> // academic period and summer period.

PDD\*2\*2\*26602\*100<NL>

PD\*SP\*950401\*P1\*31.3\*DL-FB\*\*49\*COPERNICUS  
NICHOLAUS\*CO-PRINCIPAL INVESTIGATOR<NL>

PDD\*2\*26602\*8326<NL>

PD\*CY\*950401\*DO: :8S\*125000\*DL\*\*01\* // Next budget entry for person.  
NEWTON ISAAC\*CO-INVESTIGATOR<NL>

PDD\*12\*1.2\*0\*10<NL> // No salary or fringe benefits are requested  
// for this person.

PD\*CY\*950401\*DO: :8S\*25331\*DL\*\*01\*  
**KEPLAR JOHANNES\*DATA CLERK**<NL> // Next budget entry for person.  
// This exemplifies a named, non-key  
// person.

PDD\*12\*6\*12666\*50<NL>

PD\*CY\*950401\*P1\*31.3\*DL-FB\*\*49\*  
KEPLAR JOHANNES\*DATA CLERK<NL>

PDD\*12\*12666\*3964<NL>

PD\*CY\*950401\*DO: :8S\*35000\*DL\*\*01\*  
1\*NURSE MANAGER<NL> // Next budget entry for person.  
// This exemplifies a non-key person,  
// where the labor category is specified.

PDD\*12\*12\*35000\*100<NL>

PD\*CY\*950401\*P1\*31.3\*DL-FB\*\*49\*  
1\*NURSE MANAGER<NL>

PDD\*12\*35000\*10955<NL>

PD\*CY\*950401\*DO: :8S\*32000\*DL\*\*01\*  
1\*TECHNICIAN<NL> // Next budget entry for person.  
// This exemplifies the budget for multiple  
// non-key, non-named persons, where  
// each person in a labor category  
// (Technician) is specified on a  
// separate line item.

PDD\*12\*12\*32000\*100<NL>

PD\*CY\*950401\*P1\*30\*DL-FB\*\*49\*  
1\*TECHNICIAN<NL>

PDD\*12\*32000\*9600<NL>

PD\*CY\*950401\*DO: :8S\*36000\*DL\*\*01\*  
1\*TECHNICIAN<NL>

PDD\*12\*12\*36000\*100<NL>

PD\*CY\*950401\*P1\*30\*DL-FB\*\*49\*  
1\*TECHNICIAN<NL>

PDD\*12\*36000\*10800<NL>

PD\*CC\*950401\*DO\*1\*TDL\* // Budget entry for total direct labor.  
TOTAL DIRECT LABOR\*70<NL>

PDD\*12\*\*198240<NL> // Sum of all salaries.

PD\*CC\*950401\*DO\*1\*TFB\* // Budget entry for total fringe benefits.  
TOTAL FRINGE BENEFITS\*48<NL>

PDD\*12\*\*61164<NL> // Sum of all fringe benefits.

PD*CC*950401*DO*1*TDL-TFB*TOTAL DIRECT LABOR - TOTAL FRINGE BENEFITS*71<NL>	// Budget entry for total salaries and // benefits.
PDD*12**259404<NL>	// Sum of all salaries and benefits.
PD*CC*950401*DO*1*CS*CONSULTANT COSTS* 81<NL>	// Budget entry for consultant costs.
PDD*12**22400<NL>	// Cost for consultants.
PD*CC*950401*DO*1*EQ*EQUIPMENT*42** <i>SINGLE CELL PERFUSION CHAMBERS AND FILTER SETS</i> <NL>	// Budget entry for equipment.
PDD*12*1*5500<NL>	// Number and cost of equipment.
PD*CC*950401*DO*1*EQ*EQUIPMENT*42** <i>CENTRIFUGE</i> <NL>	// Next budget entry for equipment.
PDD*12*1*15000<NL>	// Number and cost of equipment.
PD*CC*950401*DO*1*TEQ* TOTAL EQUIPMENT*72<NL>	// Budget entry for total equipment.
PDD*12**20500<NL>	// Sum of all equipment.
PD*CC*950401*DO*1*EQP MAINT* EQUIPMENT MAINTENANCE*55<NL>	// Budget entry for equipment maintenance.
PDD*12**1183<NL>	// Cost of equipment maintenance.
PD*CC*950401*DO*1*SPL*SUPPLIES*43<NL>	// Budget entry for supplies.
PDD*12**5400<NL>	// Cost of supplies.
PD*CC*950401*DO*1*TRV*TRAVEL*52<NL>	// Budget entry for travel.
PDD*12**4000<NL>	// Cost of travel.
PD*CC*950401*DO*1*PUB* PUBLICATION COSTS*80<NL>	// Budget entry for publication costs.
PDD*12**1500<NL>	// Publication costs.
PD*CC*950401*DO*1*PCC - IN * PATIENT CARE COSTS - INPATIENT*85<NL>	// Budget entry for inpatient care costs.
PDD*12**3500<NL>	// Cost of inpatient care.
PD*CC*950401*DO*1*PCC - OUT* PATIENT CARE COSTS - OUTPATIENT* <b>BL</b> <NL>	// Budget entry for outpatient care costs.

PDD\*12\*\*84720<NL> // Cost of outpatient care.

PD\*CC\*950401\*DO\*1\*ANM\*  
ANIMAL COSTS\*86<NL> // Budget entry for animal costs.

PDD\*12\*\*4400<NL> // Animal costs.

PD\*CC\*950401\*DO\*1\*A&R\*  
ALTERATIONS AND RENOVATIONS\*87<NL> // Budget entry for alterations and  
// renovations.

PDD\*12\*\*28750<NL> // Cost of alterations and renovations.

PD\*CC\*950401\*DO\*1\*OTHER\*  
OTHER EXPENSES\*39<NL> // Budget entry for other expenses.

PDD\*12\*\*35000<NL> // Cost of other expenses.

PD\*CC\*950401\*DO\*1\*ODC\*  
OTHER DIRECT COSTS\*03<NL> // Budget entry for other direct costs.

PDD\*12\*\*98633<NL> // This is an aggregated amount.

PD\*CC\*950401\*DO\*1\*TDC\*  
TOTAL DIRECT COSTS\*84<NL> // Budget entry for total direct costs

PDD\*12\*\*470757<NL> // This is an aggregated amount.

PD\*CC\*950401\*DO\*1\*TC\*  
TOTAL COSTS\*38<NL> // Budget entry for total costs.

PDD\*12\*\*470757<NL> // This is an aggregated amount. Note  
// specification of length of initial budget  
// period.

---

PPL\*\*\*\*2\*AC<NL> // Begin second year project budget

---

**PD Loop:**

PD\*CC\*960401\*DO\*1\*TDL-TFB\*\*71<NL> // Budget entry for total salaries and  
// benefits.

PDD\*12\*\*465898<NL> // Cost of salaries and benefits.

PD\*CC\*960401\*DO\*1\*CS\*\*81<NL> // Budget entry for consultant services.

PDD\*12\*\*23296<NL> // Cost of consultant services.

PD\*CC\*960401\*DO\*1\*SPL\*\*43<NL> // Budget entry for supplies.

PDD\*12\*\*5616<NL> // Cost of supplies.

PD\*CC\*960401\*DO\*1\*TRV\*\*52<NL> // Budget entry for travel.

PDD\*12\*\*4098<NL> // Cost of travel.

PD\*CC\*960401\*DO\*1\*PCC - OUT\*\*BL<NL> // Budget entry for outpatient care costs.

PDD\*12\*\*87648<NL> // Cost of outpatient care.

PD\*CC\*960401\*DO\*1\*OTHER\*\*39<NL> // Budget entry for other expenses.

PDD\*12\*\*41091<NL> // Cost of other expenses.

PD\*CC\*960401\*DO\*1\*ODC\*\*03<NL> // Budget entry for other direct costs.

PDD\*12\*\*70003<NL> // This is an aggregated amount.

PD\*CC\*960401\*DO\*1\*TDC\*\*84<NL> // Budget entry for total direct costs.

PDD\*12\*\*627647<NL> // This is an aggregated amount.

PD\*CC\*960401\*DO\*1\*TC\*\*38<NL> // Budget entry for total costs.

PDD\*12\*\*627647<NL> // This is an aggregated amount.

**LX Loop:**

LX\*01<NL>

NM1\*9P\*1\*GALILEI\*GALILEO\*N<NL> // Identification of the PI

N2\*UNIVERSITY OF SOUTHERN CALIFORNIA<NL> // PI organization

N3\*ATHEROSCLEROSIS RESEARCH UNIT\* // PI address  
2250 ALCAZAR ST., CSC-132 <NL>

N4\*LOS ANGELES\*CA\*90033<NL> // PI city, state, and zip code

PER\*IC\*\*EM\*GGALILEI@USC.EDU\* // Email address of PI.  
FX\*2133422685\*TE\*2133421478<NL> // FAX and telephone of PI.

DMG\*\*\*\*\*1<NL> // Citizenship of PI.

**N9 Loop:**

N9\*19\*01<NL> // Division of PI.

N9\*DP\*MDK<NL> // Department of PI.

N9\*SY\*123456789<NL> // SSN of PI.

N9\*P5\*1\*ASSISTANT PROFESSOR<NL> // Position title of PI.

**DEG Loop:**

DEG\*2.5\*CM\*208009\**B.S.*<NL> // Degree of PI.

DEG\*4.4\*CM\*208609\**M.D.*<NL> // Degree of PI.

---

LX\*02<NL>

NM1\*9K\*1\**COPERNICUS\*NICHOLAUS*<NL> // Key person name.

N2\**UNIVERSITY OF SOUTHERN CALIFORNIA*<NL> // Key person organization.

EMS\**CO-PRINCIPAL INVESTIGATOR*<NL> // Key person project role.

---

LX\*03<NL>

NM1\*9K\*1\**NEWTON\*ISAAC*<NL> // Key person name.

N2\**UNIVERSITY OF SOUTHERN CALIFORNIA*<NL> // Key person organization.

EMS\**CO-PRINCIPAL INVESTIGATOR*<NL> // Key person project role.

LX\*04<NL>

NM1\*61\*2\**UNIVERSITY OF SOUTHERN CALIFORNIA;* <NL> // Performance site organization.

N4\**LOS ANGELES\*CA*\*90033 // Performance site city, state, and zip code.

---

HL\*2\*1\*4\*0<NL> // Care group loop under project loop.

QTY\*1K\*1\*EA<NL> // Identify budget period.

QTY\*S7\*75\*YR<NL> // High age value.

QTY\*S8\*35\*YR<NL> // Low age value.

QTY\*TO\*672\*EA<NL> // Total number of subject in care group.

---

HL\*3\*1\*AS\*0<NL> // Animal subject group under project loop.

QTY\*1K\*1\*EA<NL> // Identify budget period.

QTY\*TO\*125\*EA<NL> // Total number of subject in care group.

AMT\*SP\*800<NL> // Average price of animals in group.  
PAM\*DY\*180\*DA\*PY\*20<NL> // Average length of housing and daily  
// housing costs.

---

**LX Loop:**

LX\*01<NL>  
NM1\*61\*2\**PHARMACOLOGY RESEARCH* // Facility where animals will be housed.  
*LABORATORY*<NL>  
N4\**LOS ANGELES*\*CA\*90033 // City, state and zip code of  
housing facility

---

SE\*163\*123456789<NL> // Transaction set trailer.

## **Appendix B. Sample 997 Transaction Set**

This appendix provides a sample 997 functional acknowledgment. It is generated in response to the successful translation of the sample 194 transaction set specified in Appendix A.

```
ST*997*987654321<NL>           // 997 transaction set.
AK1*GA*111222333<NL>         // Acknowledge functional group.
AK2*997*123456789<NL>       // Acknowledge transaction set.
AK5*A<NL>                     // Accept transaction set.
AK9*A*1*1*1<NL>             // Accept functional group. One transaction
                             // set was included, received, and
accepted.
SE*6*987654321<NL>         // Transaction set trailer.
```

## Appendix C. Points of Contact

This appendix lists various topics related to phase one of the NIH EDI prototype system. A point of contact is provided for each category of topics.

<i>TOPICS</i>	<i>CONTACT</i>	<i>ORG</i>	<i>EMAIL</i>
General project questions. Phase II questions.	Michael Cox	NIH	mc70k@nih.gov
General project questions. Phase II questions. EDI problems.	Paul Markovitz	TYC	pmarkovitz@tyc.com
EDI data mapping. SMTP/MIME questions.	Matt James	TYC	mjames@tyc.com
Policy questions.	Diana Jaeger	NIH	JaegerD@odrockm1.od.nih.gov